

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claim 1. (Currently Amended) A multi-functional device connected to a network, and having a plurality of functions including at least a first function and a second function, said device comprising:

registration means for transmitting information on the function of the said multi-functional device to a directory server apparatus on said network by a predetermined network protocol, and registering the information in said directory the server apparatus;

generation means for generating identification information corresponding to a third function realized by combining said the first function and second function, the third function being provided as one service; and

control means for registering controlling said registration means to register the information generated by said generation means in said directory the server apparatus by said registration means;

reception means for receiving service information provided by another device which includes location information indicating a location of the other device registered in the server apparatus; and

determination means for determining whether the other device and said multi-functional device neighbor each other, based on the location of the other device

indicated by the location information received by said reception means and a location in which said multi-functional device is placed,

wherein said control means controls said registration means to register in the server apparatus information that relates the service information received by said reception means with service information indicating a service that said multi-functional device can provide, if said determination means determines that the other device and said multi-functional device neighbor each other.

Claim 2. (Currently Amended) The device according to claim 1, wherein said control means controls said registers registration means to register either said first function or said second function in ~~said directory~~ the server apparatus ~~by said registration means.~~

Claim 3. (Previously Presented) The device according to claim 1, wherein said first function is a printer function for providing a printer service.

Claim 4. (Previously Presented) The device according to claim 1, wherein said second function is a scanner function for providing a scanner service.

Claim 5. (Previously Presented) The device according to claim 1, wherein said first function is a printer function for providing a printer service, said second function is a scanner function for providing a scanner service, and said third function is a copy function for providing a copy service.

Claim 6. (Previously Presented) The device according to claim 1, wherein said network protocol is SLP or LDAP.

Claim 7. - 13. (Canceled)

Claim 14. (Currently Amended) A controlling method of a multi-functional device connected to a network, and having a plurality of functions including at least a first function and a second function, said method comprising:

a registration step for transmitting information on the function of the multi-functional device to a directory server apparatus ~~on said network by a predetermined network protocol~~, and registering the information in ~~said directory~~ the server apparatus;

a generation step for generating ~~identification~~ information corresponding to a third function realized by combining ~~said the~~ first function and second function, ~~the third function being provided as one service~~; and

a control step for ~~registering~~ controlling the registration of the information generated by said generation step in ~~said directory the server apparatus by said registration step~~;

a reception step for receiving service information provided by another device which includes location information indicating a location of the other device registered in the server apparatus; and

a determination step for determining whether the other device and the multi-functional device neighbor each other, based on the location of the other device

indicated by the location information received in said reception step and a location in which the multi-functional device is placed,

wherein said control step includes controlling the registration in the server apparatus of information that relates the service information received in said reception step with service information indicating a service that said multi-functional device can provide, if it is determined in said determination step that the other device and the multi-functional device neighbor each other.

Claim 15. (Currently Amended) The method according to claim 14, wherein said control step includes controlling the ~~registering~~ registration of either said ~~the~~ first function or said ~~the~~ second function in said ~~directory~~ server ~~apparatus in~~ by said registration step.

Claim 16. (Currently Amended) The method according to claim 14, wherein said ~~the~~ first function is a printer function for providing a printer service.

Claim 17. (Currently Amended) The method according to claim 14, wherein said ~~the~~ second function is a scanner function for providing a scanner service.

Claim 18. (Currently Amended) The method according to claim 14, wherein said ~~the~~ first function is a printer function for providing a printer service, said ~~the~~ second

function is a scanner function for providing a scanner service, and ~~said~~ the third function is a copy function for providing a copy service.

Claim 19. (Currently Amended) The method according to claim 14, wherein ~~said~~ the network protocol is SLP or LDAP.

Claim 20. - 26. (Canceled)

Claim 27. (Currently Amended) A computer program executed by a computer of a multi-functional device connected to a network and having a plurality of functions including at least a first function and a second function, said program comprising:

a registration step for transmitting information on the function of the multi-functional device to a directory server apparatus ~~on said network by a predetermined network protocol~~, and registering the information in ~~said directory~~ the server apparatus;

a generation step for generating ~~identification~~ information corresponding to a third function realized by combining ~~said~~ the first function and second function, ~~the third function being provided as one service~~; and

a control step ~~for registering~~ for controlling the registration of the information generated by said generation step in ~~said directory~~ the server apparatus ~~by said registration step~~;

a reception step for receiving service information provided by another device which includes location information indicating a location of the other device registered in the server apparatus; and

a determination step for determining whether the other device and the multi-functional device neighbor each other, based on the location of the other device indicated by the location information received in said reception step and a location in which the multi-functional device is placed,

wherein said control step includes controlling the registration in the server apparatus of information that relates the service information received in said reception step with service information indicating a service that said multi-functional device can provide, if it is determined in said determination step that the other device and the multi-functional device neighbor each other.

Claim 28. (Original) A computer readable storage medium in which the computer program according to claim 27 is stored.

Claim 29. and 30. (Canceled)

Claim 31. (New) A network device connected to a network, comprising:

reception means for receiving service information provided by another device which includes location information indicating a location of the other device registered in a server apparatus; and

transmission means for transmitting the service information received by said reception means and service information indicating a service that said network device can provide to the server apparatus such that the service information for the other device and the service information for said network device is related with each other and registered in the server apparatus, if the location of the other device indicated by the received location information and a location in which said network device is placed neighbor each other.

Claim 32. (New) A device according to claim 31, wherein said transmission means transmits the service information, if the received location information is identical to information indicating the location of said network device stored in said network device.

Claim 33. (New) A device according to claim 31, wherein the location information indicates the location of the other device on a floor in a building.

Claim 34. (New) A server apparatus that can communicate with a plurality of devices, comprising:

reception means for receiving from each of the plurality of devices location information indicating a location of the device;

retaining means for retaining the location information for each of the plurality of devices received by said reception means; and

transmission means for transmitting service information indicating one service that a number of devices among the plurality of devices can provide in cooperation and the location information indicating the location for each of the number of devices based on the information retained by said retaining means.

Claim 35. (New) A server according to claim 34, wherein the location information for each of the plurality of devices indicates the location of the device on a floor in a building.

Claim 36. (New) A controlling method of a network device connected to a network, comprising:

a reception step for receiving service information provided by another device which includes location information indicating a location of the other device registered in a server apparatus; and

a transmission step for transmitting the service information received in said reception step and service information indicating a service that the network device can provide to the server apparatus such that the service information for the other device and the service information for the network device is related with each other and registered in the server apparatus, if the location of the other device indicated by the received location information and a location in which the network device is placed neighbor each other.



Claim 37. (New) A controlling method of a device according to claim 36, wherein said transmission step includes transmitting the service information, if the received location information is identical to information indicating the location of the network device stored in the network device.

Claim 38. (New) A controlling method of a device according to claim 36, wherein the location information indicates the location of the other device on a floor in a building.

Claim 39. (New) A controlling method of a server apparatus that can communicate with a plurality of devices, comprising:

- a reception step for receiving from each of the plurality of devices location information indicating a location of the device;

- a retaining step for retaining the location information for each of the plurality of devices received in said reception step; and

- a transmission step for transmitting service information indicating one service that a number of devices among the plurality of devices can provide in cooperation and the location information indicating the location for each of the number of devices based on the information retained in said retaining step.

Claim 40. (New) A controlling method of a server according to claim 39, wherein the location information for each of the plurality of devices indicates the location

of the device on a floor in a building.

Claim 41. (New) A memory medium for storing a program for controlling a network device connected to a network, wherein said program comprises:

a reception step for receiving service information provided by another device which includes location information indicating a location of the other device registered in a server apparatus; and

a transmission step for transmitting the service information received in said reception step and service information indicating a service that the network device can provide to the server apparatus such that the service information for the other device and the service information for the network device is related with each other and registered in the server apparatus, if the location of the other device indicated by the received location information and a location in which the network device is placed neighbor each other.

Claim 42. (New) A memory medium for storing a program for controlling a server apparatus that can communicate with a plurality of devices, wherein the program comprises:

a reception step for receiving from each of the plurality of devices location information indicating a location of the device;

a retaining step for retaining the location information for each of the plurality of devices received in said reception step; and

a transmission step for transmitting service information indicating one

service that a number of devices among the plurality of devices can provide in cooperation and the location information indicating the location for each of the number of devices based on the information retained in said retaining step.